

Approaches for the Future

The current Missouri deer season structure and hunting regulations were built during an era of rapidly growing deer populations, coupled with a concern that hunters would not be able, or willing, to harvest enough does to stabilize or decrease deer numbers in much of rural Missouri. In order to meet the deer management challenges of today we must devise a new approach to deer management and reconsider the structure of seasons and regulations. Effective population management revolves around ensuring appropriate levels of harvest, which is affected by seasons and portions, season timing, methods, buck harvest limits, availability of permits, and several other factors. The goal is to adjust regulations in a manner that produces the desired population change (i.e., increase, stabilize, or decrease) and meets the desires of hunters, and ensure recruitment and retention.

MDC General Philosophy on Hunting Regulations and Season Structure

MDC's role and responsibility regarding hunting, fishing, and hunter / angler participation—when consistent with biological considerations—is to:

- Provide maximum opportunity and access;
- Minimize barriers;
- Use hunting to achieve wildlife management objectives;
- Support the economic benefits that result from hunting and fishing;
- Ensure that hunting and fishing remain viable mainstream activities for Missourians;
- Promote an understanding of our hunting and fishing heritage and traditions.

Archery Season -

The archery deer season has been growing in popularity over the past several years. Additionally, archery hunting is a critical deer management tool in many urban areas where the discharge of firearms is restricted. With the increasing popularity of the archery season, we have received an increasing number of requests to expand the season to include crossbows, which are currently only allowed with a Hunting Method Exemption.

The crossbow has never been allowed during the archery deer hunting season in Missouri, except where physical disability—confirmed by a physician—prevented use of a "regular" (i.e., long, recurve, or compound) bow. Currently more than 10,000 Hunting Method Exemptions are in effect to allow persons with disabilities to use a crossbow during the archery deer season. Both regular bows and crossbows have been allowed during the firearms deer hunting season since 1958.

Many archers' groups and organizations oppose defining the crossbow as archery equipment. The stated concern is that crossbows greatly diminish the challenge of archery hunting. However, in states where

crossbows are permitted during the archery season success rates for bow hunters and crossbow hunters are very similar. Support and request for allowance of crossbows during the archery season has been increasing over the last few years. A 2012 survey of 18,000 Missouri deer hunters indicated that 46% approve and 33% disapprove of allowing crossbows during the archery season. Therefore, the many Missourians who have individually requested additional crossbow hunting opportunity would no doubt welcome the allowance of crossbows during the archery deer season.

A 2008 report on archery deer hunters found that similar to other types of hunting activity, many hunters begin at an early age, then decline in participation during the late teen and college years, followed by a return in the mid-to-late twenties with somewhat stable participation until about age 40. Age 40 is the point where archery participation diverges from firearms deer hunter participation. It appears this is the age when Missouri archery hunters begin to "drop out" of archery hunting. This "drop out" appears to occur about seven to eight years earlier than with firearms deer hunters, and continues with a resulting decline between ages 40 and 85 that is comparable to the decline in firearms deer permit sales between ages 48 and 85. If, as suspected, physical limitations further the decline in participation of middle-aged archery hunters, allowing the use of alternative methods of harvest, such as crossbows, could prolong participation for several years for those that still retain a desire to hunt.

As always, our challenge is to balance contrasting hunter opinions with the desire to provide maximum hunting opportunity while also responsibly managing Missouri's deer population. In an effort to recruit younger hunters, retain older hunters, and provide an additional tool for urban deer management, we are considering expanding the archery season to include crossbows.

Season and Portions -

The timing of various portions of the firearms deer season are of great interest and debate among hunters. The November portion during the peak of the rut was established at a time when the goal was to minimize doe harvest and maximize buck harvest. Setting the firearms season to coincide with the rut was a good deer management strategy in the early years of deer management. Deer activity is high at that time so deer, especially bucks, are vulnerable to hunting. This was appropriate because we were most interested in protecting antlerless deer and did not care if we took a high proportion of the antlered bucks. Additionally, when the November portion was established many hunters were restricted to taking an antlered deer only and were not selective, shooting the first legal deer they encountered. They were satisfied because early to mid-rut deer hunting increased their chances of taking a deer. This season framework worked well given hunter interests and management objectives.

A growing deer population throughout the 1980's and 1990's produced many modifications of our deer management objectives, shifting from a buck harvest emphasis to a doe harvest emphasis. In addition, deer hunter interests have changed. Hunters are becoming increasingly selective (Figure 1) and increasingly support management for adult bucks.

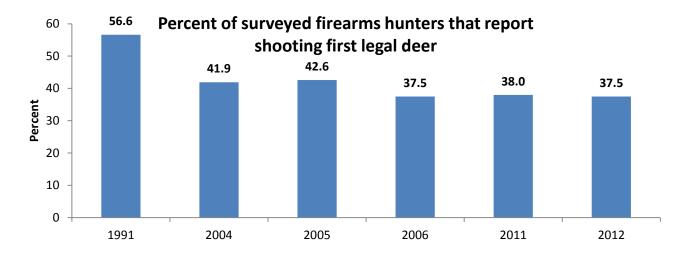


Figure 1. Percentage of surveyed firearm hunters who reported that they planned to shot the first legal deer that offered a shot.

Furthermore, the current November portion timing results in the removal of bucks during the peak of the breeding period, is disruptive to the established dominance hierarchies, and, biologically, is not an ideal time to apply heavy buck harvest. These dominance hierarchies ensure that the most fit, but not necessarily largest, bucks do a disproportionate amount of the breeding. For example, the current timing means that only 42% of the breeding occurs prior to the November portion (Figure 2). A one-week later shift would mean that approximately 75% of the does would breed prior to opening of this portion of the deer season. A later season would maintain the dominance hierarchies so that less fit bucks have less of a chance to breed.

Additionally, we know from historical changes in season timing that when the firearms season shifts from the earliest possible date (Nov 10), based on the current formula, to the latest date (Nov 16), that doe harvest increases slightly and buck harvest decreases slightly (Figure 3). Therefore, a one-week later shift to the firearms deer season would result in a slight increase in overall antierless harvest and slight decrease buck harvest.

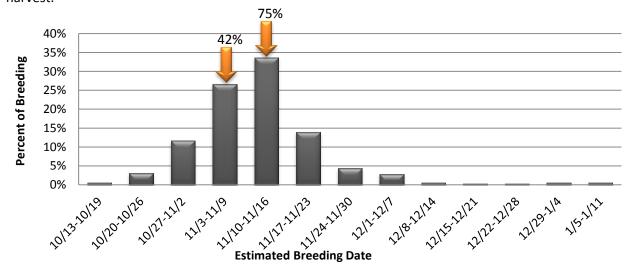


Figure 2. Distribution of breeding and percentage of breeding that would have taken place by the earliest opening date (Nov 10) and the breeding that would have taken place if the firearms season opening day began one week later (Nov 17).

Furthermore, one of the often-cited reasons for not hunting more is limited time. Starting the November portion of the deer season one week later would also incorporate the Thanksgiving holiday. Historically, when the firearms season included Thanksgiving, there was an increase in the number of days hunted. During firearms seasons that included Thanksgiving (1977-79), the number of hunter trips (average = 1,068,999) was higher than in the three years preceding (average = 933,365) and the two following (average = 1,053,444). Therefore, by moving the season one week later it would provide additional opportunities for people who have a limited number of days to hunt. This may be helpful in our efforts to recruit youth and improve hunter retention.

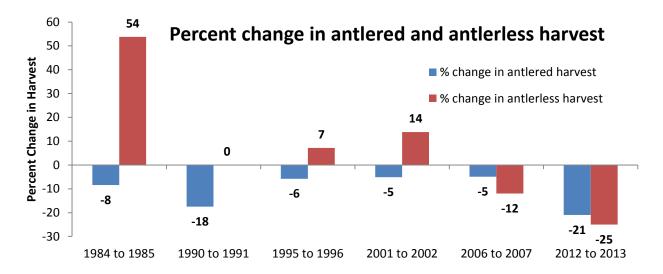


Figure 3. Percent change in antlered and antlerless harvest from a year with the earliest opening (Nov 10th) to a consecutive year with the latest opening (Nov 16th).

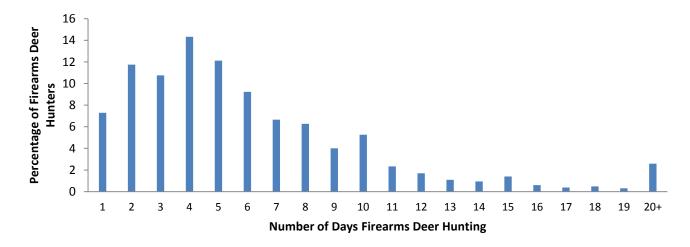


Figure 4. Estimated number of days spent firearms deer hunting in Missouri in 2012.

Antlerless portion -

The antlerless portion of the firearms deer season was implemented in 1996 as an effort to increase the harvest of antlerless deer in response to a rapidly growing deer population in portions of the state. The antlerless portion began as a 2-day portion and was expanded to 4-days in 1998 and 9-days in 2003. The antlerless portion was implemented to provide additional opportunities to harvest antlerless deer. However, because participation much lower than the November portion of the firearms season, the antlerless portion has not resulted in a significant overall increase in antlerless harvest. Much of the harvest occurring during the antlerless portion is likely the result of shifting antlerless harvest out of the November portion. For example, in 2013, the antlerless portion only made up 6% of the total firearms deer harvest and 7% of the total antlerless deer harvest (Figure 5).

The antlerless portion has not produced significant additional antlerless deer harvest and complicated regulations on public areas because of added pressure. The deer population in most of Missouri is currently at or below the population goal, the previously mentioned changes to season timing and buck harvest limits can compensate for any potential loss in antlerless harvest that would occur as a result of eliminating or shorting the antlerless portion. When we consider the changes to the population across much of Missouri that has occurred over the past several years, the additional antlerless harvest opportunities provided by the antlerless portion are no longer necessary to meet population management goals.

Also, increasing numbers of deer hunting days with the creation of youth portions, expansion of November, antlerless, and alternative methods portions has created conflicts between deer hunters and others outdoors users like small game hunters. Removing or reducing the length of the antlerless portion of the deer season may result in some lost deer hunting opportunities, but it would reduce conflicts that occur between other hunters due to the length of the current deer hunting seasons.

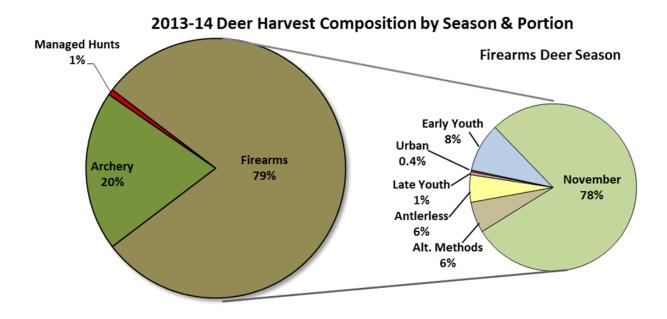


Figure 5. 2013-2014 Composition of deer harvest by season and portions of the firearms season.

Buck Harvest -

Traditionally, deer management did not limit or restrict buck harvest. As population management goals shift toward encouraging antlerless harvest and hunters' desire to see more bucks in older age-classes, wildlife biologist have begun to consider the restrictions on buck harvest as a tool to manage the sex ratio and age structure of the deer population. For example, the antler-point restriction was implemented to shift harvest pressure from bucks to does and improve age structure of the buck segment of the populations. The point restriction has reduced the harvest of bucks 1½ years old, but has not greatly reduced total buck harvest. Therefore, one option to consider is reducing the total number of bucks an individual could harvest to reduce pressure on the buck segment of the population. This is particularly important as we explore ways to ensure appropriate antlerless harvest and meet hunter desires for more bucks in older age classes, particularly in areas where the antler point restriction is not biologically or socially appropriate.

The more than 400,000 deer hunters that only hunt during the firearms portion of the deer season are currently limited to only one antlered buck because they don't hunt during the archery season. A reduction in the antlered buck limit to one would affect the approximately 120,000 hunters that participate either only in the archery season or both the archery and firearms seasons. However, each year archery harvest makes up a larger proportion of the total antlered buck and overall deer harvest. For example, in 2000 archery deer harvest made up 10% of the total deer harvest and 11% of the antlered buck harvest, by 2013 those numbers had increased to 20% and 19%, respectively.

Localized Management and Antlerless Permits -

Now that deer populations have become well established across the state, most management focuses on meeting localized population goals. Because deer populations are affected by local factors such as habitat condition and hunter numbers, we must consider the application of antlerless harvest and allocations of antlerless permits on a much more localized basis. From 1974 to 2003, there was a quota system on the number of antlerless permits issued by management unit. In 2004, the Department went to county-based management units, eliminated the quota system, and replaced it with the current system, which is based on limiting antlerless permits an individual could use on a county-management unit basis, but not limiting total antlerless permits available for that county. The quota system is slightly more complex than the current system, but it provides some control over the number of antlerless deer harvested by management unit.

As management intensity increases, the pressure for more small-scale localized management will also increase. The current system or the quota system for allocation of antlerless permits can only regulate harvest at the county or management unit level and cannot deal with small-scale localized differences that occur within a county. Therefore, wildlife management cooperatives, where neighboring landowners work together to meet common deer management goals, are increasing in popularity. The Department is also considering developing a Deer Management Assistance Program with some combination of county limit or quota that would allow for greater localized antlerless harvest flexibility, which would help hunters and landowners meet local management goals.

Please provide your thoughts and comments about statewide deer management, hunting regulations, and hunting opportunities.